

## **REMARKS**

Claims 1-15 are now pending in the application. The following remarks are believed to be fully responsive to the outstanding Office Action and are believed to place the application in condition for allowance. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of remarks contained herein.

### **REJECTIONS UNDER 35 U.S.C. § 103**

Claims 1-6, 9-12, 14 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoth et al. (U.S. Pat. No. 5,710,723) in view of Farag et al. (U.S. Pat. No. 5,629,870).

Claims 7, 8 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoth in view of Farag as applied to claims 1-3, 6 and 10 above, and further in view of Day, III et al. (U.S. Pat. No. 4,387,368).

Claims 1, 9, 10, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Canada et al. (U.S. Pat. No. 5,726,911) in view of Farag.

These rejections are respectfully traversed.

Applicants submit that the cited art of record fails to disclose a diagnostic system for a compressor assembly including a compressor and a motor protector with associated logic circuitry operable to analyze a status of the motor protector as a function of time for identifying a specific fault cause.

#### **Hoth**

Hoth discloses a pre-emptive maintenance system for use with a turbine engine, a pump, a motor, a fan, a compressor, or any other machine-driven apparatus. See

Hoth at Col. 4, Ins. 16-20. Operating parameters of the equipment (12-1) are sensed by a number of sensors (14-1) and fed through a sensor interface unit (16-1) to a monitoring unit (18-1), which includes an on-site status display (20-1) and lines (24) to a remote central work station (22). See Hoth at Col. 4, Ins. 26-43. Data from the sensors is gathered periodically and then processed in order to provide an appraisal of the equipment status (e.g. NORMAL, NOT NORMAL). See Hoth at Col. 4, Ins. 50-54. This equipment status is provided on the status display (20-1) and is transmitted to the central work station (22). See Hoth at Col. 4, Ins. 54-56. The central work station (22) checks the condition and stability of the sensors and, if the condition is OFF or varies beyond established limits, the data is held invalid and is not used in further calculations. See Hoth at Col. 7, Ins. 22-66. Valid data obtained during a prescribed time period is used to establish moderate limits ( $L_M$ ) and extreme limits ( $L_E$ ). See Hoth at Col. 9, Ins. 49-57. Newly collected data is compared to these limits to determine if a failure probability counter ( $FP_{LB}$ ) has been exceeded. See Hoth at Col. 9, In. 61 – Col. 10, In. 53.

None of the foregoing sensors (14-1) are described as being a “motor protector” and none are described as including such a function. The sensors (14-1) – while providing data used to determine an equipment status – do not actually protect the equipment disclosed by Hoth. The sensors (14-1) provide information to indicate the status of the equipment, but do not operate to protect the equipment. Some other thing or person would be required to interpret the information sensed by Hoth and act based on that information. Based on the foregoing, Applicants respectfully submit that the sensors (14-1) of Hoth are not motor protectors.

Further, even if a status of the sensors (14-1) is gathered periodically or in specific time intervals, such data does not provide information regarding a status of a *motor protector* because the sensors do not function to protect the motor, as discussed in the previous paragraph.

Moreover, Hoth also fails to disclose logic circuitry that analyzes a status (of the sensors – not a motor protector) as a function of time to identify a specific fault cause. In the Decision on Appeal rendered March 31, 2008 for this same application, the Board of Patent Appeals and Interferences defined the term “function” as “a quality, trait, or fact dependent on and varying with another.” See Decision on Appeal dated March 31, 2008 at Page 5, citing Webster’s New Collegiate Dictionary, 465 (G. & C. Merriam 1973). While Hoth discloses that the data may be periodically gathered in ten to fifteen minute intervals, Hoth fails to disclose that the intervals are linked to data collected by the sensors (14-1) such that the collected sensor data is dependent on and varies with time.

#### Canada

Canada discloses a monitor (100) that senses, collects, analyzes, and stores information useful for ascertaining the health and condition of an electric motor (102). See Canada at Col. 5, Ins. 19-22. Sensors positioned at the base of the monitor (100) sense various parameters of the motor (102) during operation and send them to an electronics board (130) where they are processed and stored as motor operating parameters. See Canada at Col. 5, In. 53 – Col. 6, In. 4. Motor life factors such as run time, motor load and cumulative run time in various load ranges, motor starts, and the

time required for a starting motor to reach operating speed are computed from the sensor signals. See Canada at Col. 6, Ins. 53-56.

As set forth above, Canada discloses various sensors that monitor operation of motor life. Similar to the arguments made with respect to Hoth, Applicants respectfully submit that such sensors are not motor protectors, as recited by independent Claim 1. As such, Applicants respectfully submit that Canada fails to teach or suggest analyzing a status of a motor protector. Furthermore, even if the sensors of Canada could be considered motor protectors, which Applicants refute, the sensor data is not analyzed as a function of time. While Canada discloses calculating motor-life factors, for example, based on output from the various sensors, Canada fails to disclose such factors are dependent on or vary with time.

Based on the foregoing, Applicants respectfully submit that independent Claims 1 and 10, as well as Claims 2-9 and 11-15, respectively dependent therefrom, are in condition for allowance. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.


## **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner

believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: October 28, 2008

By:   
Michael Malinzak, Reg. 43,770  
Matthew H. Szalach, Reg. 53,665

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

MAM/MHS/ca